

ULTRASOUND FOR SOFT TISSUE MASSES

As a general rule ultrasound is not the investigation of choice for assessment of a peripheral soft tissue mass. This is best done with MR, but, depending on the question, ultrasound does have a limited role. This is likely to be a relief for those practitioners who don't have easy access to MR. Some questions can be answered with ultrasound but others are more problematic.

1. Is there a mass or not? Clinical assessment of possible soft tissue lumps can be difficult. It seems unreasonable to insist on MR just to confirm or exclude a mass; ultrasound is usually adequate for this purpose.

2. Is it cystic or solid? Masses around a joint are often joint related and cystic, e.g. meniscal or popliteal cysts. Away from the joint, cystic lesions are uncommon and ultrasound is of limited value

3. What is the mass? This is a common ultrasound question but we need to be cautious. We are often asked to use ultrasound to confirm the clinical diagnosis of a **lipoma**. These are usually echogenic and well defined but can be difficult to separate from the subcutaneous adipose tissues when they are superficial. Figure 1 shows a typical superficial lipoma which is not particularly easy to distinguish from the subcutaneous fat. Typical ultrasound features can support a clinical diagnosis of lipoma but benign ultrasound appearances should not prevent further investigation if there are any untoward clinical features such as increasing size.

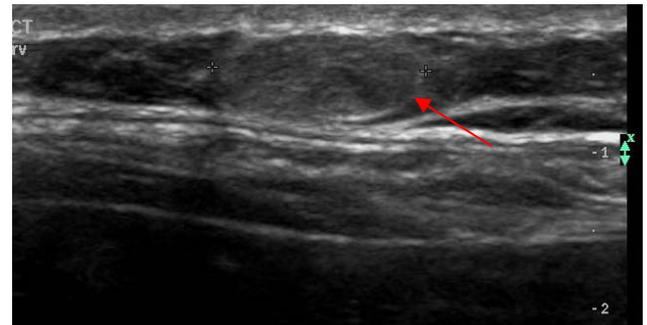


Fig 1. A subcutaneous lipoma

Atypical appearances on ultrasound also necessitate further investigation with MR imaging. With lipomas which are large (greater than 5cms) or deep (intramuscular) it is important to exclude sarcomatous transformation. Figure 2 shows a large intramuscular lipoma which needed further imaging with MR to look for suspicious soft tissue foci.

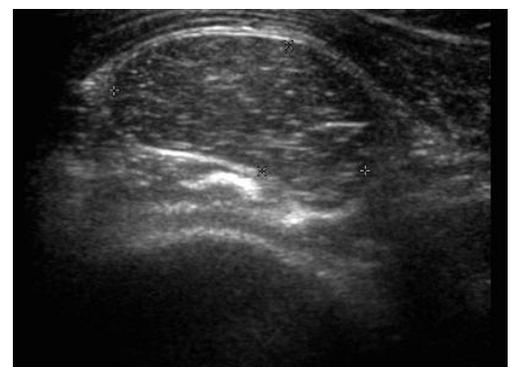


Fig 2. A large intramuscular lipoma which requires further imaging

In general it is ill advised to attempt to characterise a solid mass with ultrasound. It is important not to overlook a soft tissue **sarcoma** which can have quite a bland, well defined appearance on ultrasound. In particular we need to be very wary of the diagnosis of **organising haematoma**, which often seems to crop up early in the work up of a soft tissue sarcoma and can lead to significant delays in diagnosis as it did in the case illustrated in figure 3.

4. Can we biopsy the mass? Sadly but importantly the answer to this question is almost invariably NO. Not because of technical difficulties but because of the behaviour of soft tissue sarcomas, which necessitates absolutely no breach of the tumour or tumour bed prior to definitive surgery, which excises the entire compartment without opening into the tumour. Also, because these lesions may only have small foci of the aggressive component, sampling error is a significant problem. Any biopsy must be dictated by the surgeon doing the definitive procedure. This is at odds with breast, lymph node and thyroid lesions, which can be appropriately biopsied under ultrasound control.



Fig 3. A synovial sarcoma, initially considered to be an organizing haematoma. The absence of blood products on MR was diagnostic.

KEY POINTS

- **Ultrasound OK to confirm or exclude a mass and to distinguish cystic from solid.**
- **Although ultrasound can provide supportive evidence for lipomas, shouldn't try to characterise a solid mass with ultrasound.**
- **Beware the diagnosis of organising haematoma.**
- **Don't request a biopsy.**

Vicki Morganti

ARG's experience with CT COLONOGRAPHY

ARG radiologists Helen Moore and Jane Peart recently attended a "CTC Masterclass" in Sydney, held by world authority Dr Danielle Hock from Belgium. Together with Nick Dodd, George Foote and Glen Thomson, ARG radiologists now have a collective experience of well over one thousand cases. CTC is gaining momentum around the world as a cost effective and accurate diagnostic and screening tool for colorectal cancer. It is safe and employs a low dose of radiation.

Multislice CT scanners are essential for high quality CT colonography. ARG has multislice scanners at **101 Remuera Rd** and at **the Northern Clinic** in Wairau Road.